

Sept '91



Ole Virginia Times

The OVH ARC Newsletter



"OLE VIRGINIA HAMS" AMATEUR RADIO CLUB, INC.
Post Office Box 1255, Manassas, VA 22110

Repeater: WA4FPM -- 146.97
WA4FPM -- 224.66

Digipeater: WA4FPM-1 -- 145.09
WA4FPM-3 -- 223.40

OVH NOVICE TRAINING CLASS

OVH will conduct a Novice Course beginning September 17th, 1991, at the Stonewall Jackson High School. The class will start at 7:00 p.m. every Tuesday evening for approximately twelve weeks. The course will consist of both theory and code and will prepare the student to take the 5 word per minute code test along with the basic Novice theory test.

There is no charge for the course, however, the students are responsible for procuring their own study materials.

If you know of anyone interested in HAM radio let them know about the OVH course. Further information can be obtained from Dick (WD4AZG), Mary Lou (KB4EFP) or myself!

John (N4YOB)

UPDATES

Calls received as of August 10th, 1991:

Technician -- No Code:

- Woody Carner (KD4DEG)
- Elena Frisbie (KD4DEI)
- Ron Hoile (KD4DEK)
- Verne Schwartz (KD4DEL)
- Erv Whalen (KD4DFB)

Technician Plus:

- Jon Fritsch (KC4VMW)
- Jim Ward (KD4AUJ)
- Jim McKinley (WD4OJY)

CONGRATULATIONS!!!!

Make a difference— VOLUNTEER

HARRY'S CORNER

A simple VHF emergency antenna and method of erection is described - it could also be applied to 10 Meters but lower frequencies would find it quite long. The antenna is constructed of RG58 coax.

To construct the antenna (see diagram):

1. Strip the outer covering off of a piece of coax at one end. The length of the piece stripped off should be approximately 3/8 wavelength at the frequency to be used.
2. Now fold back the exposed braid along the unstripped coax (it should be fairly tight along the coax). Trim the length of this folded back braid to a quarter wave length long.
3. Take the exposed coax center conductor and make it be a quarter wave length long (the coax center insulation may or may not be left on -- just suit yourself).
4. Attach an insulator to the end of this exposed center conductor.
5. Attach a coax connector to the far end of the unstripped coax.

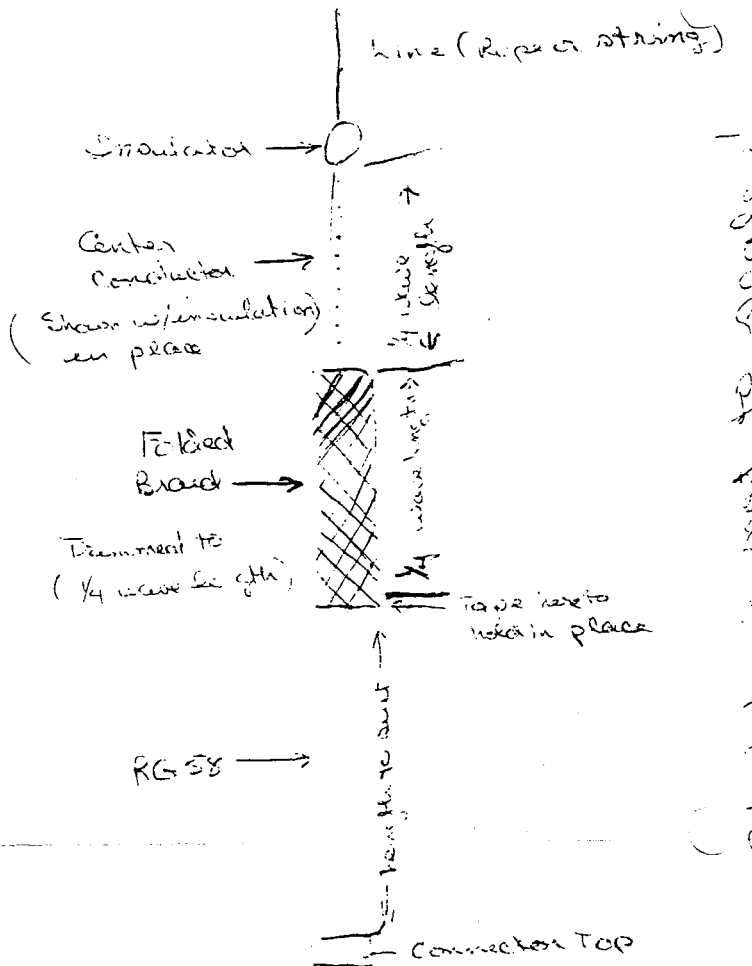
The antenna is ready for use.

Now for the erection:

1. Throw a line up into a convenient tree letting the far end of the line fall back to earth.
2. Tie the near end of the line to the antenna insulator and pull on the far end of the line. This will pull the antenna up into the tree. Fasten the line so that the antenna will stay up there and then connect it to your rig - **- YOU ARE ON THE AIR!!!**

73's

Harry (W4PVA)



NOTES FROM THE EDITOR

The Ole Virginia Times is published monthly by the Ole Virginia Hams Amateur Radio Club, and is mailed free to members of the OVHARC. Permission is granted for use of material contained within this Newsletter, provided proper credit is given. This Editor will exchange Newsletters with other Clubs and Associations upon request. **Newsletter deadline for submission of articles is the 25th of each month for inclusion in next month's Newsletter.** The Newsletter is entered as First Class Mail at the Manassas Post Office, Manassas, Virginia.

We are always looking for interesting it for the Newsletter. If you see articles, have shack tips, items for sale, items wanted, brain teasers, etc., please send them to the Newsletter Editor c/o OVH, Post Office Box 1255, Manassas, Virginia 22110; or, give me a landline (703-361-0008). If it is interesting to you, chances are it will be interesting to others!

YAESU FT-736R / A REVIEW
de
CP6GH / NS5N

I generally don't do reviews on a piece of amateur equipment. I tend to use it and either enjoy it or get rid of it. What has happened to change this, is the purchase of a radio at an exceptional price that will fit into my ham shack rather elegantly, allow me to sell two other pieces of equipment and provide me with four radios in one package. (this one cost me \$900.00/check the options)

The Yaesu FT-736R is a VHF/UHF transceiver capable of USB, LSB, FM and CW on 144 MHz and 430 MHz as it comes from the box. This can be expanded to include two more bands covering 50 MHz, 220 MHz or 1200 MHz. I was fortunate in that mine included the 220 MHz module!

This radio is rated at 25 watts output on the 2 M, 1 1/4 M and 70 Cm bands. 10 watts is available on 6 M and 23 Cm bands. Now add to this 100 general purpose memories, ten full duplex cross band memories, one global call channel and 4 band specific memories, you get 115 frequencies if their simplex and 230 frequencies for duplex! Also are two general purpose vfos and one Programmable Memory Limit Scanning vfo per band and two special purpose full duplex vfos for a total of 14 vfos.

We're not done yet. Select the satellite mode on this puppy. Now you have two vfos tracking consecutively or flick the switch and they track in opposite directions for other satellite transponder traits. You can retain twelve satellite uplink/downlink modes in the special vfos set aside for satellite operation and ten full duplex memories at all times.

With the add ons, you can have amateur television, packet, CAT interface for the computer, an AQS message processor for those that use it, voice synthesizer, a built in keyer and a CTCSS tone squelch unit. From the front panel you can select metering for discriminator, ALC, signal strength, power out (all for normal or satellite mode), VOX gain, delay and anti-trip, keyer speed, three speed AGC, processor, keyer, burst, scanner pause, panel dimmer, VFO, dial lock, FM channel tuning, SSB channel tuning, noise blanker, notch filter and much, much more. You even have a fully functional DTMF pad on the front that doubles as a direct frequency input and alternate function selection. Even the CW sidetone monitor level is on the front panel.

I have already made up my mind on the options that I am going to add to this radio. Primarily, will be the 1200 MHz module followed by the CAT/Packet unit. Also included will be the CTCSS unit and the internal keyer and 600 Hz CW narrow filter. Somewhere down the line, I want to add the AQS message processor and definitely the Voice synthesizer.

That last item is important to me. My will states that all of my radio equipment will be turned over to Handy-Hams or a similar organization. Any time a radio can be set up for the hearing or visually impaired, I personally feel that it should be. I have met quite a few Handy-Hams at various Field Day and Hamfest activities. I think that they are probably the best operators out there. I know that they try the hardest just to be a Ham.

CONNECTING YOU AND PACKET RADIO IN THE REAL WORLD

From The Mailbox

It's as if someone had broadcast my address to all points of the globe. The mail is arriving from every country around the world. I don't mind receiving mail. As a matter of fact, I love it. I enjoy the many QSLs and picture postcards that portray the beautiful sights in other countries.

More and more, SASEs make up a large portion of my mail. Although most of the SASEs are just that—self-addressed and stamped with the correct postage—a lot of mail has envelopes addressed for return, but the sender forgot to include postage. Others ask for return information, but do not include an envelope or postage. There are a few that don't supply even a return address. As I've stated in the past, I cannot furnish postage and provide envelopes to answer all the mail that requests return information.

The amount of mail I'm receiving now offers strong evidence that this column is indeed read by more packeteers than any other packet publication. We plan to keep the information about packet flowing from as many sources as possible on as many topics as possible.

Simple arithmetic will confirm that it doesn't take many 29 cent stamps to dent one's "cookie jar." This is the reason why I ask for your help with the SASEs. I handle the SASE requests personally. Each weekend on Sunday afternoon (and nowadays into the evening) I close the door to the study, switch off the telephone, and proceed with reading and answering your letters. Believe me, the mail has reached such a proportion that I have purchased an automatic letter opener.

I love the hamfest season, and even more I enjoy the warm and courteous receptions at the packet forums and lectures we conduct at hamfests, users groups, and club meetings. These meetings provide me with a base for a question pool and the items which need addressing in this column. In addition, the letters I receive from readers also contribute to the topic base. From here I conduct a mini-survey that gives me an idea of the kind of information I need to address in this column.

For every problem, there is a solution which is simple, neat and wrong. — H. L. Mencken

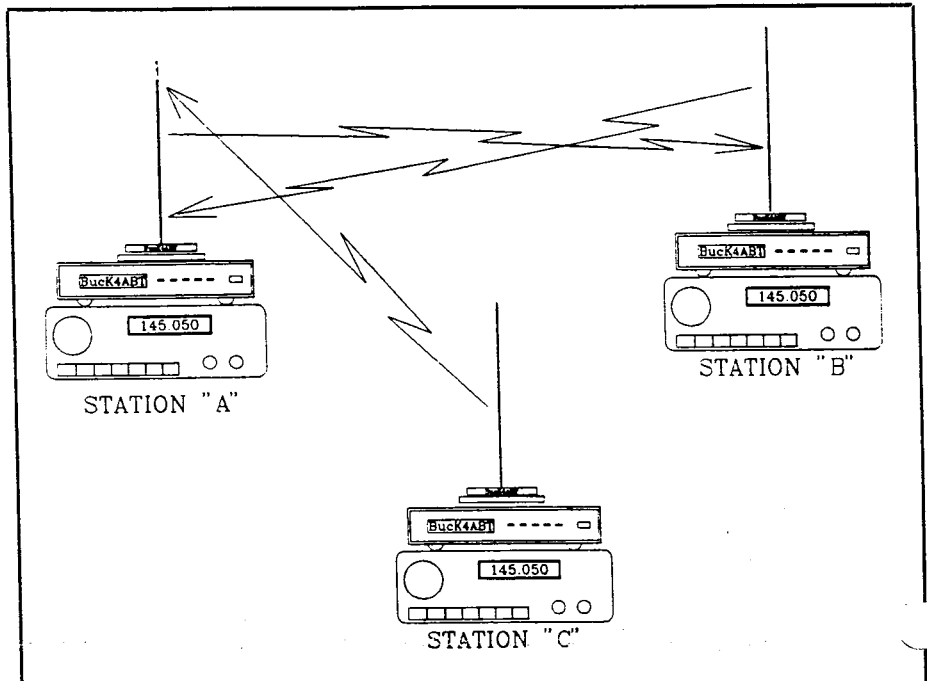


Fig. 1—Stations "A" and "B" are connected in a normal QSO, while the station at "C" is connected to the mailbox of station "A." The operator at station "A" can also read the mail left in the mailbox while connected to station "B."

From The Mailbox

Paul Zukin, W6OVW, of Piedmont, California wrote a letter to tell about one of his recent encounters. It concerns a problem he and several other readers have written about recently.

Seems Paul's problem was centered around the MAC SE and the Kantronics KAM. He had some difficulty returning to the COMMAND (CMD:) mode after using AMTOR. He tried the approach that was recommended in the KAM manual using the **Ctrl-C** followed by the letter **X**, but nothing happened.

Paul called Kantronics Technical Support and was unable to resolve the problem at that level. Kantronics Tech Support did mention that the problem appeared to be related to timing.

Paul's friend Mike Shumacher, KF6YL, who also uses a MAC, the KAM, and "White Knight" terminal software uses macros as if they are second nature, ac-

ording to Paul. Mike has set up a gaggle of macros to perform multiple functions. (A macro is several keyboard functions that are chained together in a batch that can be executed with a single or double keystroke.) After talking with Mike about the AMTOR exit problem, Paul discovered that Mike was using a macro to exit AMTOR into the command mode and had not experienced the problems that Paul had.

At Mike's suggestion, Paul set up a macro similar to the one used by Mike. Next he entered the AMTOR mode and executed the macro that he had built and saved. He executed the AMTOR mode and operated for a short time. Next he invoked the macro which should take the KAM from the AMTOR mode to the command mode. Bingo, it worked! And it worked not just once, but each time the macro was executed.

It is obvious that the macro is so precise in the execution process that no timing differences can occur. In any case,

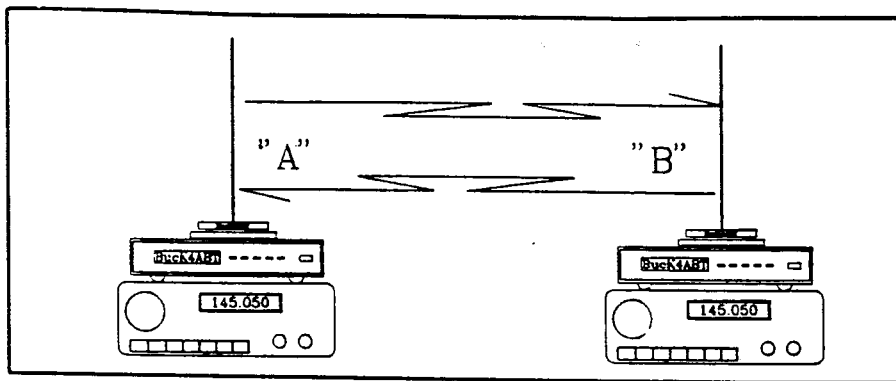


Fig. 2— It is not uncommon for two stations to connect to the mailbox of each other's station. With the mailbox or PBMonitor command ON, the operator is aware that another station is connected to the PBBS/mailbox.

the exit from any mode to the command mode is now done by macros at the W6OVW digital station. Thanks, Paul, for a timely solution to a problem that has been experienced by several readers of this column.

Need More Audio From The PK232 To The TS-440?

Bill, near Aiken, South Carolina, told me about a problem he had run into while trying to mate the PK-232 to the Kenwood TS-440. Seems the output from the PK-232 was not of sufficient level to drive the TS-440.

I remember a message that was posted on Dan's (WA4BRO) BBS here in Atlanta. It covered that very same subject. I'm not sure who is to receive credit for coming up with this solution, but I will say that the unnamed message was graciously relayed by Jim, KB3PU @ N3LA in Pennsylvania. In response to Bill's letter, and other TS-440/PK232 owners, the following text could solve your low audio problem.

Audio from the TNC is on the order of 170 mV at maximum. Assuming you use port two of the PK-232 to feed the TS-440, clip one end of R152 in the TNC. This removes the resistor from the circuit. Clip only one end of the resistor so that it may be soldered at a later date should the need arise. Place a jumper across R160, effectively shorting it. A small piece (No. 20 or 22) of tinned bare wire soldered parallel to the resistor will do nicely.

When soldering near traces that are close, use extreme care not to "bridge" any connections or lands. Beneath the circuit board locate the ungrounded end of R151. Cut or detach the land from the "TX Audio" port of the PK-232 Radio Port one (1). Solder a resistor of the same value as R160 across the break or cut. The TS-440 requires approximately 500 mV of audio. This modification will provide almost twice that amount, or around 1000 mV peak (1 volt). This mod is harmless,

yet this caution applies: *Proceed at your own risk.*

If you prefer, a similar application can be facilitated without these mods by using the AFSK I/O and Remote connectors of the TS-440. This tip is supplied by Tom, KE2KQ.

First he says the PK 232MBX is connected to the AFSK I/O, and the Remote connectors. In this connection the drive from the PK-232MBX is more than adequate. He reports that it may be necessary to back off the AFSK level by about a quarter of a turn. This makes the adjustment of the Mic Gain easier to handle on the TS-440. Then setting the Mic Gain control to about 25%, he is able to achieve full power when the data is sent (transmitted).

The Mystery of "MYSELCALL"

The next stack of letters is not a deep pile, but the subject represents enough of a problem that it bears attention. This is not the first time we've come across this culprit.

A mysterious gremlin must work overtime on this one, because I've received mail from several states about the SELCAL changing in the KAM with no help from the owner. Most of the users I either talked with or heard from were using version 2.85 in their KAM. The reason I'm discussing a problem that is not that widespread is because it hit close to home.

Curtis M. Carter (was K4KKQ and is now AC4DO) wrote the same description of the problem as another reader in Costa Rica. The manner in which the problem was resolved is the same. I'll quote from Curt's letter:

"Buck, I want to relate a problem I had recently with my KAM. I have been on AMTOR quite a bit lately. One night while trying to link with an FR5 station on Reunion Island in the Indian Ocean I wasn't having much luck. It was sporadic, and according to what I understand about

AMTOR, impossible, I thought. We would begin the link and then it would break. We tried FEC, and again not any luck to speak of. I finally gave up, thinking it might be the band conditions. As an afterthought I decided to look at my parameters to see if there might be any reason there why I had failed to keep or make a link. As soon as I saw the 'MYSELCALL' I knew I had discovered the problem. The SELCAL which was 'KKKQ' had somehow been changed to 'KCKQ.' I reset the MYSEL command to reflect the original KKKQ SELCAL. I RE-PERMED, and began to make good links again. About a week later I experienced the same problem as before. Nope, I hadn't been into the heavy coffee pot, but my first inclination was to check the MYSELCALL. Sure enough, there was the culprit... changed from KKKQ to even a different SELCAL than before; this time I was 'CKKQ.' I quickly reset the MYSEL to KKKQ and back to the good links it went. The next morning I called Kantronics to tell them about my problem and ask what could be done to correct it. I talked to their engineer, who told me what I had experienced was impossible.

"After fighting this problem and re-entering the SELCAL many times, I decided to bite the bullet and pull the KAM out of the case and do a 'hard reset.' Buck, this KAM has been a model of satisfaction ever since. The 'hard reset' somehow corrected the problem."

Curt, thanks for the tip, and this is not the first and only problem that has been cured by doing a hard reset. In addition, the Kantronics product is not the only TNC that has had this kind of problem. Many times I've experienced strange problems with other TNCs, and as a final fling—well, just before the final fling (out the window)—I do a hard reset, and it returns to normal and performs as if new.

More Mailbox Talk

In 1986 I wrote about the CALL/SSID format which Glynn, WB4RHO; Edward, KB4KIN; George, N4AGO; Curt, K4KKQ (now AC4DO); Bob, WD4MNT; Jim, W4HON; and other area packeteers were using in our Personal Bulletin Board Systems (PBBS) in our (Kantronics) TNCs. Specifically, I was using the Kantronics All Mode (KAM). Because the KAM allows for separate callsign SSIDs to be applied to each of the port connect features of the KAM and other Kantronics TNCs, we began using the dash ten (-10) as a designate for the internal TNC mailboxes.

Using this same format, I installed my Mailbox CALL/SSID as K4ABT-10. Many of you already know the scenario with regard to the setup of the CMSG/CTEXT, or the CMSG use—and abuse. CMSG means "connect message," and it refers to the ON/OFF or PBBS/DISconnect functions

and features. CTEXT is the Connect Text that is contained in the connect message. These two features are designed to work in concert. You may often connect to a station and receive something similar to the following message: "If no response, re-connect to K4ABT-10 and leave a message."

Mailbox Callsign and SSID Standards

In the Kantronics KAM and KPC-4 the mailbox can be set to handle up to 20,000 bytes of mail/messages. If the added RAM is installed, this amount can be more than doubled.

With the TINY-2 and other PacComm TNC2 compatible firmware that has the Personal Message System (PMS), we have a similar capability. It is now possible to use a callsign/SSID for the packet mailbox that is different from that of the MYCALL. This "dash ten" (-10) idea has become so widespread that the packeteers in the east and southeast who are trying to make contact with other stations automatically use the dash-ten (-10) call as an attempt to leave mail in another packeteer's mailbox.

True, the MFJ TNCs do support a mailbox feature, such as it is, but the RAM is limited in space to around 7,000 bytes. The MFJ TNCs do not allow the user to install a separate CALL/SSID to that of the MYCALL assignment. The MFJ TNCs do not allow simultaneous mailbox and keyboard connections. The AEA PK-232MBX, Kantronics, and PacComm do allow the above features, and the mail memory storage capability is as much as four to six times the capacity of the MFJ TNCs.

Users who own the MFJ-1270B, MFJ-1274, and other exact TAPR TNC2 clones are finding that the PacComm TINY-2 EPROM will work nicely in their TNCs. The TINY-2 EPROM is compatible, and it is available from PacComm. The MFJ users will lose the WEFAX feature of the MFJ TNC, but this mailbox feature may be more desirable than the WEFAX receive feature.

Replacing the TNC2 EPROM with the PacComm TINY-2 EPROM which has the Personal Mailbox System (PMS) expands the mailbox storage to almost 15,000 bytes. This more than doubles the mail storage capacity.

In addition to the features already mentioned, the AEA PK-232MBX, Kantronics, and the PacComm enable the TNC to be used for QSO connects, while at the same time the Personal Mailbox/PBBS is being accessed and mail stored for the owner to read at a later time.

As a matter of fact, the mail can be read as soon as it is posted, even if the user is in a QSO with a third station. The PBBS/Personal Mailbox can be accessed and in use by station number one while

we are communicating with still another packet station (station number two). Our station is station number three. (See fig. 1.)

Yes, I heard that thought and it is true. There are times when I've actually observed two stations connected to one another's Personal Mailbox (see fig. 2). Sort of reminds me of the time I was trying to figure what the end result would be if a snake could swallow itself. Heavens, don't dwell on that too long! That's almost as horrid as the time I decided to disagree with my high school science teacher who said, "There is an end to space." I made the mistake of asking, "What is on the other side of the end of space?" I never found out.

With the dash ten (-10) being used as a nationwide standard for mailbox addressing, it has become easy for us to leave the VHF station on to receive mail while we are asleep, away at a meeting, or at the office.

With many packet clubs and users groups giving the stamp of approval to this CALL/SSID format, we are now able to pass traffic, messages, and greetings from station to station with ease. If you have yet to define your PBBS/Mailbox callsign, you may find the dash ten will bring you messages from stations you never knew were active.

Another advantage of the dash-ten SSID is that this method removes the "funny calls" such as "BUXBOX" or ABT10, etc. These aliases left the distant packet friends without a trace of what callsign you might be using for your mailbox, unless of course you had informed them previously. With the widespread use of systems such as the ROSE network, we are able to connect over longer distances. Thus, we are able to make use of these mailbox callsigns.

Some Mailboxes May Even Forward To and From One Another

As the features of the new TNCs become more sophisticated, so do the mailbox functions. The AEA PK232MBX, Kantronics, and PacComm mailboxes send and receive messages to and from the full-blown, area BBSes. I personally feel that this feature is not in the best interest of the keyboard-to-keyboard packet users, as it tends to invite additional forwarding across the LAN frequencies and at all times without regard for any QSOs that are already in progress. The additional forwarding of mail might occur at any time on an already congested channel, causing collisions, loss of connects, and ill feelings.

One alternative would be for the user and the local BBS SYSOP to execute mail forwarding during the early morning hours or in the quiet time. It may be ne-

cessary to tune your station to the frequency of the area BBS during the forwarding hours, usually 12 midnight to 7 AM local time. This way, your mail is there the following morning. There are enough problems already being created by a few unscrupulous BBS operators who, for no good reason, feel they own the keyboard-to-keyboard frequencies, so they forward "poop" traffic anytime they please, even during heavy keyboard traffic hours. I am happy that only a few renegade BBS SYSOPs exist and that most of the BBS SYSOPs are true devoted BBS managers who give the keyboard users the same respect as the SYSOP receives, or at best they too understand the plight of trying to carry on a QSO against the onslaught of umpteen zillion bytes of data from a BBS with the MAXFrame set to 7, PACLen 255, FRack 2, DWait 1, and RETRY 0 (zero). I've watched (because I couldn't use the frequency) as BBSes took over the keyboard frequency, forwarding messages that had BID lists longer than the text of the message being forwarded.

Author's comment to the BBS software writers: It appears as if the BBS software writers are afraid to write code that differs from that of another BBS software writer. I am talking about a system that would strip or otherwise remove all but the most recent or local BIDS. There is room for new and better ways to build the BBS code. Why do we continue on the same trek as the one that was built ten years ago? I admit you guys are great BBS software writers, but for some reason we seem to have become stuck in a rut just because someone said, "If it ain't broke, don't fix it." Well, it "ain't broke," but it is beginning to break the system around it.

The True BBS SYSOP

There is much to be said for the *true* BBS SYSOP, as he and she are usually working a full-time job and later the same day clearing, or as we SYSOPs know it, "doing the BBS housekeeping." Housekeeping is not an easy task, and with "big brother" looking over our shoulder nowadays, that chore has become even more meaningful.

We've truly learned to appreciate the devoted and sincere BBS SYSOPs for their efforts, while at the same time we've learned who the few SYSOPs are who are there strictly for the bolstering of their egos.

Back To The "Feature"

Please bear in mind that I offer the dash ten as a protocol, and not a "rule." I know there are those who have had their mailbox, node, or gateway set to one, two, and three, etc., for eons and don't wish to change. Whatever you like is fine. This

format or "standard" has served us well, and enables a distant user who has no notion of your mailbox SSID to connect with your message system and leave messages for you.

Speeding Up Things A "Bit"

This little play on words is more in the frame of "speeding up the bytes" than speeding up the bits. 9600 bauds has come of age, and I can affirm that it is much faster. The Kantronics Data Engine can send almost a page file at 9600 bps while my 1200 bps system is sending an **ACK** to a connected station.

Running the Data Engine into the Kantronics DVR 2-2 two-watt, two-channel Data Transceiver is the medium means that we are using at the moment. However, I've interfaced the DataEngine to another COTS (Commercial Off The Shelf) 45-watt transceiver and received favorable results. Without trying the radio at the mic connector, I fed the transmit audio to the reactance modulator, and utilized the input (wiper) of the volume control for the receive audio pick-off point.

I've discovered in at least one other (COTS) transceiver that I did not have to make any internal connections to the radio to make it work with 9600 bauds. I do leave the squelch open (shot noise), and the radio with which I'm experimenting utilizes pin-diode switching. If you wish to run a test with your transceiver, proceed at your own risk.

As a note of interest, I did have to turn the transmit audio up and increase the amount of deviation. NO! They are not the same! As a matter of fact, most transceivers that have been developed in the last 12 years have both a mic or audio gain and a deviation control. As for the receiver section, the "skirts" of the IF should also be at least 7½ kHz each side of center frequency with a passband roll-off no worse than 10 dB wall to wall. I'll have more on the COTS transceiver interfacing in another article soon.

Searching For A Leak

That is exactly what 9600 sounds like—an air leak. If you were to remove the valve-core from the valve stem of a fully inflated tire and use your thumb to open and close the orifice, the resulting sound would be similar to the sound of 9600 bauds. Listening to 9600 bauds as it is being sent and received is a treat, but actually using it is a greater thrill.

I learned early on that there is no place for 9600 bps on a 1200 baud frequency. First, the users of the 1200 bauds are not familiar with the hissing sound of 9600, so they tend to make a call to the local power company to let them know there is bad (copper oxidized connection) interference coming from nearby power lines.

Second, the users of the 1200 bps frequencies discover that 9600 is a new kid on the block, and it must be disciplined. Therefore, all the power that can be mustered must go "key-down" to overcome the signal of the 9600. Some will even call via the telephone to ask if you are able to hear that strange noise on the frequency. I tell them that it is a test of the 9600 baud DataEngine, and the next question is "Well, how can we copy it?" When I tell them they must also have 9600 bps capabilities to receive it, I sometimes get a response such as, "But I just got upgraded to 2400 bps." That did it. Time to move to another frequency.

The real truth I tell the caller is that this is a new mode, and the 1200 and 2400 bps will continue for some time to come. For now the 9600 bauds will be used mainly as trunking and backbone high-speed facilities.

With DFSK we have a means that is within the reach of many pocketbooks and checkbooks. Oh, DFSK . . . That is how we describe the **Direct Frequency Shift Keyed** modem that is used inside the Kantronics DataEngine to develop the 9600 bauds.

Absolute vs Relative

To draw an analogy relating the change from 1200 bps to 9600 bps is to say it is like the days when we moved from CW to 1200 baud packet. In substance we have increased our speed eight times when we move from 1200 bauds to 9600 bauds.

Oh sure. Here come the critics. *Please note:* I said, "in substance." No, I did not forget the fact that we still have the headers in each frame that contain the origination and destination codes along with the boolean bit count that makes the error-free data transmission of X.25 (AX.25) possible. There is also the turnabout time of the frames and the acknowledgements between the two connected stations.

The manner in which we measure AX.25 baud rates is based on the speed and flow of the data as if it were in one steady, contiguous stream.

For our interpretation of AX.25 packet radio data rates, we will base the speed of the 9600 bauds on the same format that is used for measuring 1200 bauds.

Who Has The Standard?

The company that propelled 2400 bps into wide use in the early days of packet (less than ten years ago, Hi) is the same company that is devoting much time and development to the 9600 baud arena. Recently I spoke with Phil Anderson, CEO of Kantronics, about where we were headed with 9600 and which "standard" we eventually would use. Instead of relating what he said, I will quote his response directly.

"Buck, while there has been no *official* standard for Direct FSK DFSK modulation and demodulation, there does exist a defacto standard, following the original work by Steve Goode, K9NG, for 9600 baud. An adaptation of that standard, with improvements, is the G3RUH modem—essentially, the installed base or defacto standard now in place. The Kantronics DE 9600 Modem card that plugs into the DataEngine is G3RUH compatible.

"The essence of DFSK is its direct nature—that is, the frequency of the FM signal follows the data directly. There is no 'copy of a copy,' no tones added to the carrier and then removed later. Think of it as though looking at an original and not a photo copy of a photo copy! If we swing a packet NRZI signal back and forth, with pulse shaping, the received signal is true FSK—that is, shifting the frequency back and forth to follow the data. However, if I convert a data tone to some audio sine wave and then shift to a different audio sine wave for data zero, I have then modulated these tones onto the FM carrier. This is called AFSK (Audio Frequency Shift Keying). That's a copy of a copy.

"With DFSK I can simply slice the audio I receive into a high, or a low, a one or zero. No peak detectors are needed. The FM radio has done the discriminating for me! . . ."

Phil also mentioned another area of interest that concerns the high-speed packet user. There is a band plan which calls for 100 kHz channels around the 430.550 MHz region. The ARRL band plan calls for this wide channel because the data rates may go as high as 56,000 kB. For now, the transition is to 9600 bps because it is the easiest to achieve, and it can be used at lower RF frequencies because it can operate in a narrow bandwidth.

The Old Gray Mare . . .

In my youth (almost a half century ago), I remember traveling to town in a John Deere wagon, being pulled by an old mule we had named "Bud." That was a long time ago in the coal mining country around Altoona, Alabama. In later years we moved to Gadsden, Alabama, and my father went to work for Republic Steel Corporation. We moved from the John Deere wagon to a real, live, red 1947 Studebaker truck. It travelled much faster and went much farther than old Bud, and we didn't have to feed it twice a day. In 1957 we moved from the truck level to a Ford Fairlane 500 with an "Interceptor" engine in it. Now that automobile really moved across the real estate.

The analogy that I've drawn here relates to what has happened in a much shorter time in the packet world. In as few as ten years we have moved from 300 and 1200 bps to 2400 bps (the mule and wagon), to 2400 bps modems (the Studebaker truck), to the DataEngine at 9600 bps (the Ford Fairlane with the "Interceptor" engine).

It doesn't matter how we plan our future. The future seems to unfold with an almost predetermined behavior. We do contribute to the speed and manner in which this time/space continuum occurs. In other words, to the packet user who asks me at the packet lecture, "How long will my present TNC be compatible?" I can only reply with this analogy: The mule and wagon continue to be compatible with travel; it just depends on how fast and how far it is that you wish to go.

A Mention of The ROSE

I mentioned the ROSE network earlier. I have included the SouthNet ROSE Network map in this month's column (see fig. 3). It is interesting to notice how rapidly the system has spread in less than two years. If you have a ROSE map for your area, I will be happy to include it in this column as space allows. With the growth of the ROSE Network, it is now possible for the areas involved to link to each other, providing more coverage with the same easy telephone topology.

Another Service For The Packet User

To assist the packet users groups that are growing in numbers around the nation, I will be happy to announce the dates and times of your packet meetings. You should send me the announcements of your packet club's meeting place, date, and time. Please use the club's letterhead if possible. The announcement must include the name, return address, callsign, and phone number of the packeteer or person sending the announcement. Please include the name and fee for any newsletter or club packet bulletin that is provided by the packet users group. And remember, we need a three-month lead time (for example, this July column was written in mid-April).

Happy Packeting, de Buck4ABT.

K4ABT @ W4HHY TN.USA.NA

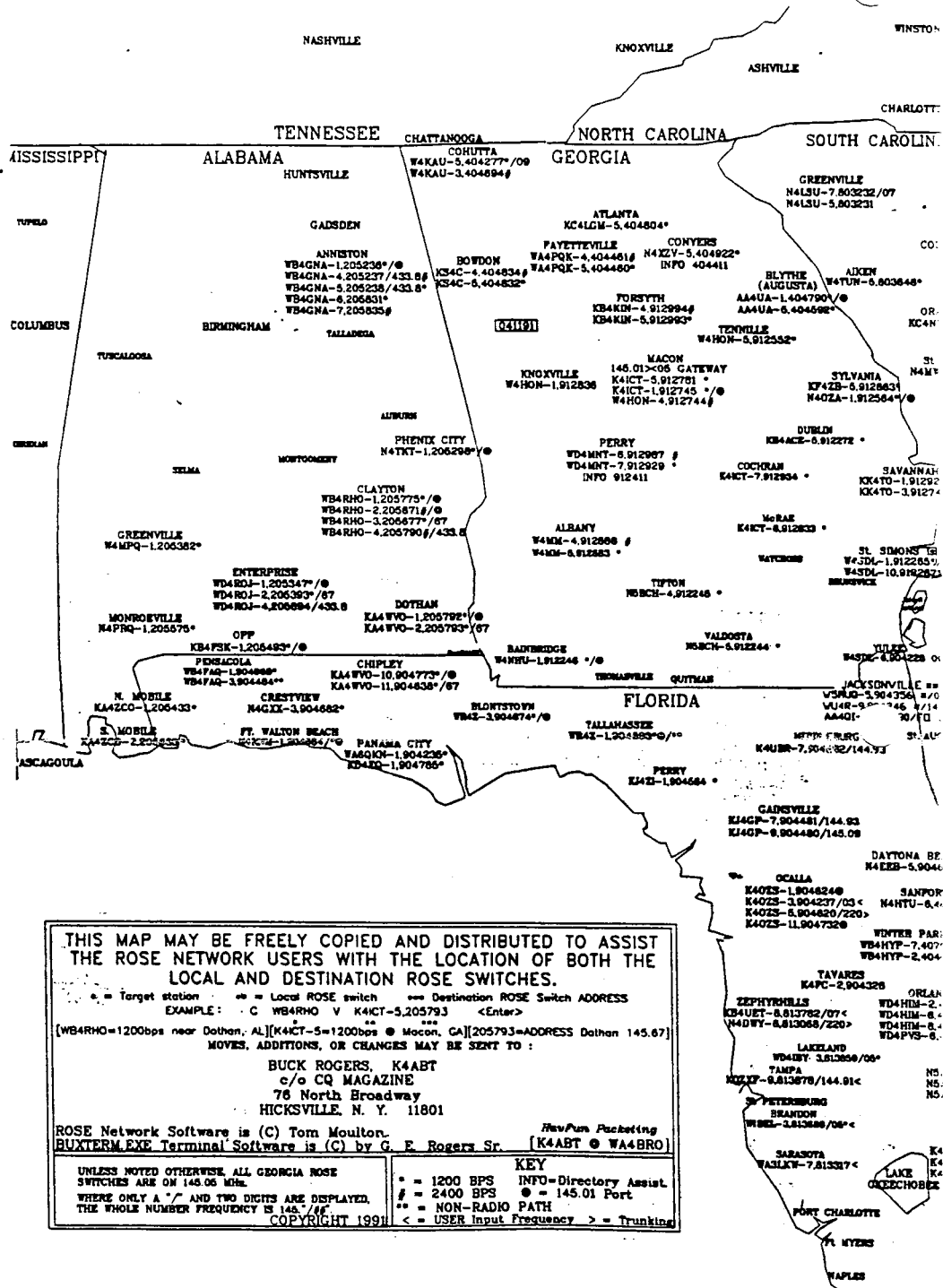


Fig. 3- The SouthNet ROSE network map.

I went to a movie recently and things have really changed. This time the cops were on the screen and the robbers were selling refreshments.

AMERICAN EAGLE CHAPTER STILL EXISTS!!

Contrary to popular belief, the American Eagle 10-10 Chapter still meets every Sunday at 5:00 pm on 28.340. At times, the Net Control Operator assigned fails to show up because of other commitments; but that's to be expected on Sunday evening. But, most of the time, the Net goes on as scheduled.

The Chapter was formed several years ago by Ro (WB4NWX) who is still Chapter Head. Charter Members are:

- Ro (WB4NWX)
- George (KH6OZ)
- Milt (N4SN)
- Art (W1CRO)
- Hank (K4BFJ)
- Dick (WD4AZG)
- Harper (W4IWZ)
- Al (K4IQH)
- Jim (AI4W)
- Dave (WD4MPG)
- Carl (KA4AVD)
- George (N4IXV)
- Steve (N4OGR)
- Jim (WD4OJY)
- Richard (N4PMP)

Total membership, at this time, stands at nearly 300 (a complete list can be obtained by sending a SASE with double postage to George (N4IXV), Certificate Manager).

Information on the Chapter may be obtained by checking in to the Net on Sundays. If you're bashful, send a SASE to George (N4IXV) and he will send you the info.

We have not heard several members on the Net for some time -- feel free to check in anytime!

REMEMBER -- 28.340 - 5:00 pm (local time) Sunday Evenings!!!

If you're not a member, join up!!!!!!!!!!!!

George (N4IXV)

YOUR FOR SALE ITEM

COULD GO HERE !!!

FOR YOUR INFORMATION

AMATEUR RADIO SPECTRUM:

The Amateur Radio Service has only 2/10 of 1% of the total amount of spectrum from 0-30 GHz allocated for its exclusive use.

Amateur radio is sometimes described as having a generous spectrum allocations. For example, on the 220-222 MHz re-allocation, the FCC stated repeatedly that amateurs have substantial amounts of other spectrum in which to operate. A chart used by the ARRL, however, clearly shows that of the less than 5% of spectrum allocated to it, the Amateur Radio Service shares 4.5% with other services, and is subjected to there interference. TNX. (W5YI Report, Vol. 13, Issue #14.)

NEXT MEETING

The next meeting of the OVHARC will be on Monday night, September 16th, 1991, at 8:00 p.m., in the basement Meeting Room of the Northern Virginia Electric Co-Op, 10323 Lomon Drive, Manassas, Virginia.

Looking forward to seeing **YOU** there!!!!



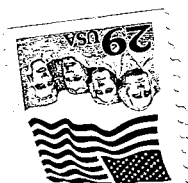
Collectible: any object that becomes incredibly valuable six months after you throw it away.



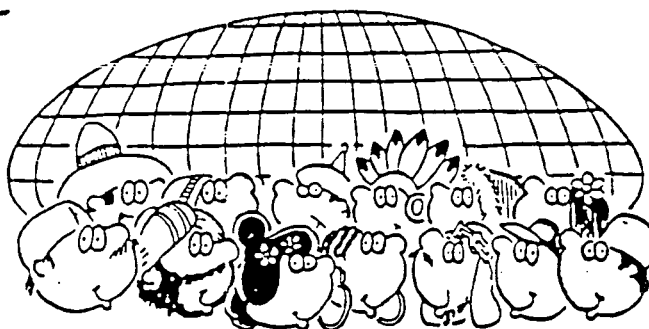
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